CONTENTS.

PAGE

Metallurgical Methods for Combating Corrosion and Abrasion in the Petroleum Industry. B. B. Morton 1

Rheological Investigation of Asphaltic Bitumen in Connexion with its Technical Applications. R. N. J. Saal. 69

Incendiary Fuels for Various Purposes. C. M. Cawley, J. H. G. Carlile, J. G. King, and F. E. T. Kingman 90

The Oil Shale Deposits of the World and Recent Developments in their Exploitation and Utilization, Reviewed to May 1947. W. H. Cadman 109

The Alkylation of *iso*Paraffins with Olefins in the Presence of Sulphuric Acid. Part II. The Action of Sulphuric Acid on the Trimethylpentanes. F. Morton and A. R. Richards 133

Examination of Used Engine Lubricating Oils. K. Hilfreich, J. C. McNicol, and L. Rosenfeld 147

Substitution and Polymerization Reactions of Thiophen and the Isomeric Thiophthens. J. Bruce, F. Challenger, H. B. Gibson, and W. E. Allenby . . 226

Obituary : **Thomas Cassinet Palmer** 236

The Structure and Properties of Ethylene Polymers. R. B. Richards . . 237

Simple Chemical Analysis of *iso*Butene in Binary Mixtures with other Olefins. J. P. W. Houtman 255

Lubricating Oil Testing in Engines. R. Stansfield and J. C. Cree 271

Tank Calibration. By Tank Calibration Panel 288

Telecommunications in the Petroleum Industry. Z. Friedberg 309

An Accurate Microviscometer. By Erica Glynn and L. Grunberg 331

The Use of Zinc Alkyls in the Preparation of Hydrocarbons with a Quaternary Carbon Atom. F. R. Buck, B. B. Elsner, E. J. Forbes, S. H. Morrell, J. C. Smith, and E. R. Wallsgrove 339

Obituary : **Henry Edward Medlicott, D.S.O.** 370

The Production of Oil from the Fields of Southwestern Iran. H. S. Gibson, C.B.E. 374

The U.K. Petroleum Industry in War. Sir Andrew Agnew, C.B.E. 403

Vaporization in Furnace Tubes. G. Baars 417

Obituary : **W. H. Park** 443

Special Steels for the Petroleum Industry. R. Jackson and R. J. Sarjant, O.B.E. 445

Some Modifications of the Lamp Method for the Determination of Sulphur in Petroleum Products. G. E. Mapstone 486

The Two-stage Ignition of Higher Hydrocarbons at Atmospheric Pressure. G. Friedlander and L. Grunberg 490

Obituary : **Alfred Courthope Adams** 511

William A. Peters, Jr. 512

William Robert Guy 513

Aerial Photography and Exploration for Oil. N. J. M. Taverne 515

An Account of Some Solid State Properties of Petroleum Waxes in Terms of Their Composition. S. T. Minchin 541

PAGE

Allowance for Losses due to Exit, Entrance, and Fittings for a Gas Flowing in a Pipe Under High Pressure Drop. E. S. L. Beale and P. Docksey . . 602

Thirty-Fourth Annual General Meeting 610

Annual Report of Council 1946 613

Obituary : **Eve Neyman-Pilat** 625

Calibration of Cylindrical Tanks with Axis Inclined. W. L. Coats 627

The Production of Olefin-Polymer Lubricating Oils of Satisfactory Oxidation Stability. G. H. Dazeley, D. Gall, and C. C. Hall 647

The Importance of Chemical Attack in the Lubrication of Metals. F. P. Bowden 654

The Lubrication of Metals by Compounds Containing Sulphur. E. B. Greenhill . 659

The Lubrication of Metals by Compounds Containing Chlorine. J. N. Gregory 670

Alkylnaphthalenes. Part II. The Methyl, Ethyl, and *n*-Propyl Naphthalenes. S. H. Morrell, G. B. Pickering, and J. C. Smith 677

The Prediction of Vapour-Liquid Equilibria for Ternary Mixtures from the Data of Binary Systems. Yu-Ming Li and J. Coull 692

Fundamental Work and Combustion in Germany. D. S. Petty, E. P. Wright, and F. H. Garner 706

Compression-Ignition Applied to the Otto-Cycle (The " Ring " Process). M. O'Farrell 734

Fundamental Work on Friction, Lubrication, and Wear in Germany During the War Years. E. D. Tingle 743

Major Developments in Synthetic Lubricants and Additives in Germany. H. L. West 774

Emulsions of Seawater in Admiralty Fuel Oil with Special Reference to their Demulsification. A. S. C. Lawrence and W. Killner 821

Aviation Fuels : The Development of Tests for Determining Rich-Mixture Performance. D. A. Howes and R. Stansfield 857

An Automatic Indicator for Coloured Fuels Flowing in a Pipeline. J. Savage and M. Squires 878

Thirty-Fifth Annual General Meeting 888

Adjourned Thirty-Fifth Annual General Meeting 896

Annual Report of Council 1947 905

Obituary : **Lt.-Col. H. C. B. Hickling, C.B.E., D.S.O., M.C.** 909

Admiralty Turbine Oil O.M.88 911

Some Substitution Products of the Liquid Isomer of Thiophthen-Thiopheno-2′:3′(or 4′:3′):2:3-Thiophen. Frederick Challenger, Peter H. Clapham, and Robert Emmott 922

On the Influence of Glass on the Oxidation of Low Viscosity Mineral Oils. D. J. W. Kreulen and F. G. Kreulen-van Selms 930

Author Index 941

Name Index 944

Subject Index 948

PAGE
602
610
613
625
627
647
654
659
670
677
692
706
734
743
774
821
857
878
888
896
905
909
911
922
930
941
944
948